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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/535,015	03/24/2000	Shunpei Yamazaki	0756-2131	3052

7590 09/23/2004  
ROBINSON INTELLECTUAL PROPERLY LAW OFFICE  
21010 SOUTHBANK STREET  
PMB 955  
POTOMAC FALLS, VA 20165

EXAMINER

CRANE, SARA W

ART UNIT	PAPER NUMBER
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2811

DATE MAILED: 09/23/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b> 09/535,015	<b>Applicant(s)</b> YAMAZAKI ET AL.	
	<b>Examiner</b> Sara W. Crane	<b>Art Unit</b> 2811	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 17 December 2003.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 2-13, 15-27 and 29-42 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 2-23, 15-27, 29-42 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

### **DETAILED ACTION**

Applicant requests a signed copy of the IDS of December 19, 2000. There doesn't seem to be any paper at all with that date in the IFW images of the file available to the examiner. Is this paper visible to Applicant? (Where?) Perhaps another copy could simply be provided for the examiner to consider.

### ***Claim Rejections - 35 USC § 103***

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claims 2-13, 15-27, and 29-42 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yamazaki et al., 5,210,050, in view of Zimmer, 4,140,548, Zhang et al., 5,388,000, and further in view of Fehlner et al., 5,372,860, Yamazaki et al., 5,365,080, Yamazaki et al., 5,313,076, and Kataoka et al., 5,913,111.

See reasons of record in the Office action of 23 October 2002. As noted there, the features recited in the pending claims are various combinations and permutations of the features taught in these references. Specifically, each reference is relied upon for the following teachings:

Yamazaki et al., 5,210,050, teaches in figure 1E a thin film transistor having semiconductor film 13, formed over substrate 11, which has insulating surface 12, and channel region 17. The hydrogen and oxygen concentrations taught overlap the ranges of claim 2.

Zimmer teaches in the abstract and cover figures the double layer gate insulator.

Zhang et al. teaches the use of TFTs in display devices, although the preamble of the pending claims no longer requires any specific use. Column 11, lines 27-29, teaches to cover the semiconductor film and the gate electrode with oxide film 29 in order to form an interlayer insulator.

Fehlner et al. teaches at column 4, lines 21-24, that a silicon layer may contain fluorine as an aid in passivation of dangling bonds.

Yamazaki et al., 5,354,080, teaches to add fluorine to gate insulator.

Yamazaki et al., 5,313,076, teaches carbon and nitrogen in silicon in concentrations that overlap those claimed.

Kataoka et al. teaches at column 5, lines 22-25, to cover the device with a passivation film that can be organic resin.

Motivation for combining the various teachings was discussed in the previous Office action, and in each case the feature noted as taught by each of the references would have been obvious in order to obtain the specific advantages of that feature as set forth in the reference. Applicant's specification does not note any new or unexpected features of the various combinations recited, and in fact each feature seems to be incorporated for the specific reason noted in the prior art references. The only argument presented states simply that no one reference anticipates all of the claimed features.

The newly-added limitation of for example claim 21, requiring a "crystalline" semiconductor film, is taught in the abstract of Yamazaki et al., '050, which notes that there are crystal grains.

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to S. Crane, whose telephone number is (571) 272-1652.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group receptionist, whose telephone number is (571) 272-1562.



Sara W. Crane  
Primary Examiner  
Art Unit 2811